



REPORT

ARCHAEOLOGICAL SITE CONDITION MONITORING
REPORT - MAUAO HISTORIC RESERVE, TAURANGA

InSitu Heritage Ltd

ARCHAEOLOGICAL SITE CONDITION
MONITORING REPORT
MAUAO HISTORIC RESERVE, TAURANGA

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Prepared for:

Tauranga City Council
Private Bag 12022
TAURANGA

Prepared by:

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Purpose

Mauao Historic Reserve is an extensive cultural heritage landscape that covers approximately 40 hectares. It is located on the eastern side of the entrance to Tauranga Harbour (Figure 1). The Reserve contains components of three pā, plus associated pits, terraces, platforms, house floors and middens. The shell mounds in the reserve are the only known surviving examples of this type of archaeological feature within the Bay of Plenty. Mauao is gazetted as a Historic Reserve and is managed by Tauranga City Council (TCC). Mauao is protected under the provisions set out in the Mauao Vesting Act 2008. The Trustees of the Mauao Trust administer the Reserve on behalf of Ngāi Te Rangi, Ngāti Ranginui and Ngāti Pūkenga. The Reserve must be managed in a manner consistent with the requirements of the Reserves Act 1977. Mauao is also identified as a wāhi tapu on the Heritage New Zealand List (item no. 9423).



Figure 1 – Location of the Mauao Historic Reserve.

One of the key principles of historic heritage management is that the values of heritage places are clearly understood before decisions are taken that may result in change. Once the heritage values are identified and understood, the aspects of the places that possess heritage value can be conserved and protected accordingly. The visible archaeological features of the Reserve were mapped in 2003 and an archaeological report was prepared by Ken Phillips at that time. In 2004 a Conservation Plan was prepared for the Reserve by Wildland Consultants Ltd, which incorporated specialist archaeological advice to guide management and conservation of the archaeological sites within the Reserve. Phillips updated the archaeological report in 2014, and there have also been other archaeological reports prepared between 2003 and 2014 relating to particular work carried out under archaeological authority conditions within the Reserve.

TCC were granted an archaeological authority (no. 2017/944) by Heritage New Zealand in August 2017, to undertake various activities associated with ongoing maintenance of the

reserve. Heritage Management Specifications were prepared in May 2016 to guide the work permitted under the conditions of the archaeological authority. The specifications include the establishment and maintenance of an archaeological site condition monitoring programme. The conditions of the archaeological authority include a requirement that the authority holder (TCC) submit to Heritage New Zealand an annual report containing a summary of the maintenance works undertaken during the preceding year and outlining any archaeological work completed.

In 2018 the first annual monitoring report was prepared and provided a summary of the annual work programme and baseline data for on-going archaeological site condition monitoring. Monitoring was also carried out in July 2019 and September 2020 and reported.

This latest (2021) monitoring report provides a summary of the annual work programme undertaken during the period from July 2020 to June 2021; and updated data for on-going archaeological site condition monitoring, gathered during a site visit on 14th October 2021. This report also includes recommendations for work actions that are required to address site management issues identified during the monitoring inspection.

Summary of reserve archaeological work 2020/21

During October 2020 a draft Archaeological Research Strategy for Mauao was prepared and this was discussed at a meeting with Mauao Trust representatives in May 2021. The draft strategy is currently under consideration.

A draft archaeological report was prepared in April 2021 to inform Te Korowai o Mauao (Restoration and Planting Plan) and presented to staff. In December 2021 advice was provided relating to planned large tree removal and the planting plan.

The temporary step alignment established to bypass the landslip on the base track was removed in early 2021 and the area has been resown in grass. There have been no adverse effects to archaeological features in the area where the steps were, and grass is recovering well. A site visit and archaeological input to the Mauao Interpretation Plan was also provided during the year. The site visit took place in April 2021.

Archaeological inspections specific to on-going reserve maintenance were carried out during the year as follows:

8 June 2021 – archaeological monitoring of machine access track formation to enable extraction of large trees removed near the base track. There was minor impact on archaeological features (midden) which was appropriately recorded and reported to Heritage New Zealand at the time. Removal of the summit trig was monitored. No intact archaeological features were disturbed.

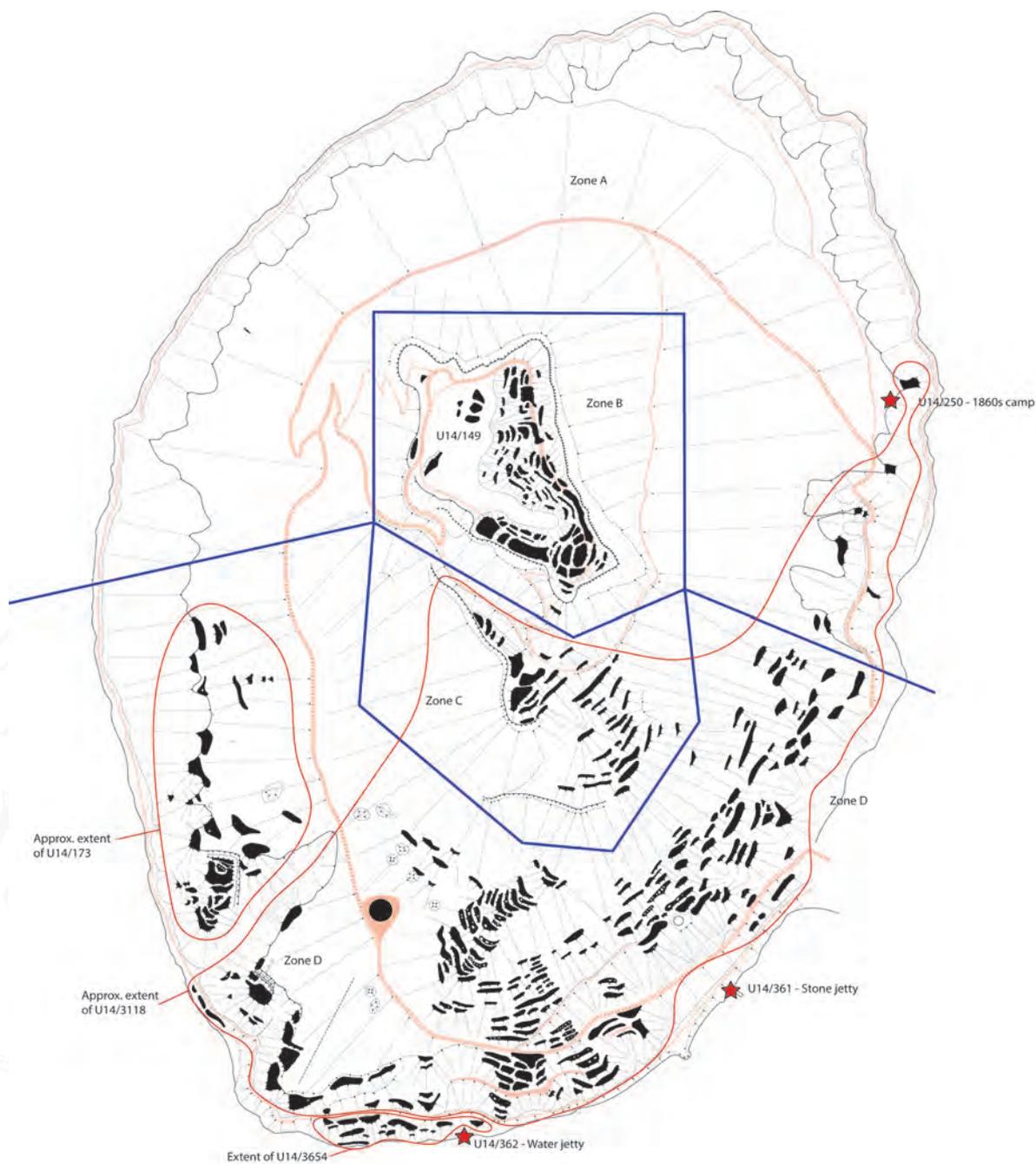


Figure 2 – 2019 plan showing recorded archaeological features on Mauao (InSitu Heritage Ltd 2019).



Figure 3 – Location of monitoring points within the Mauao Historic Reserve.



Monitoring Site 1

Stone Jetty surrounds - stone walls

Notes: Erosion is unchanged from 2020, grass cover advancing, but this could be primarily due to seasonal variability. Plants on terraces now well established, but some minor infill planting is required. Introduction of soil and planting along the track margin would assist to restrict visitor access to the formed track.





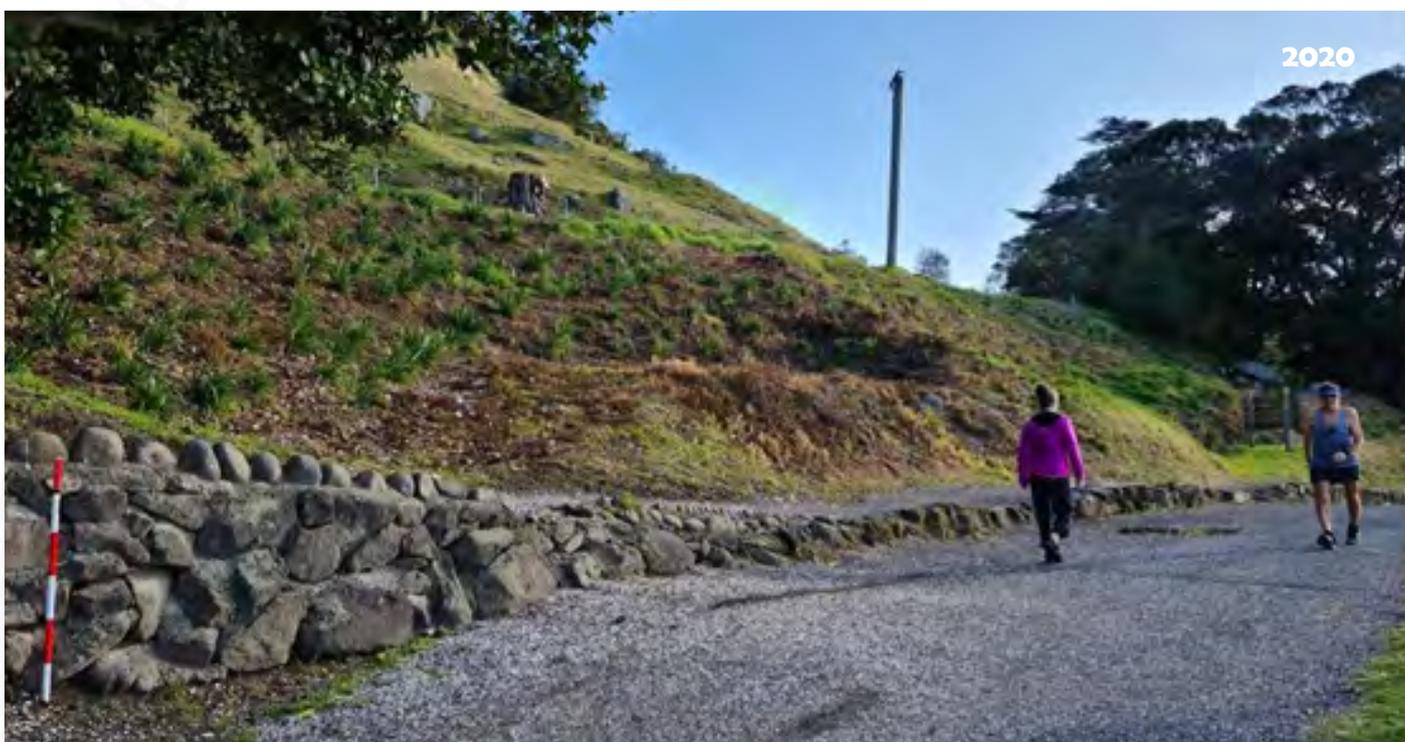




2021



2020







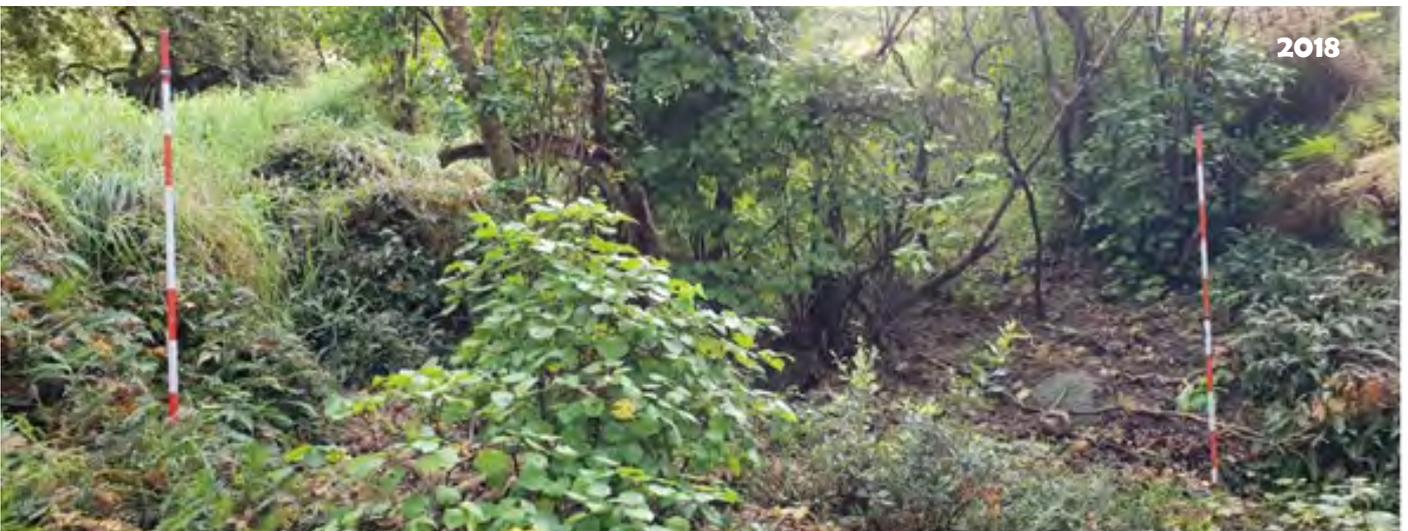
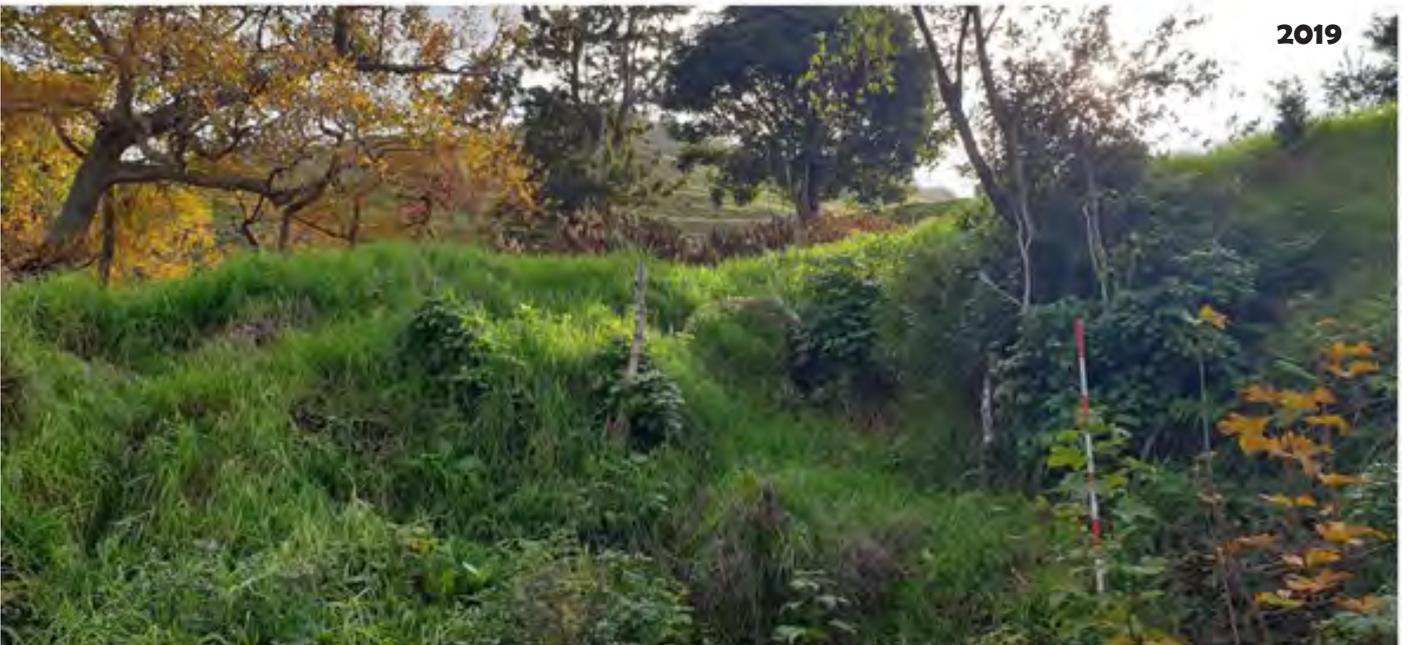
Monitoring Site 2

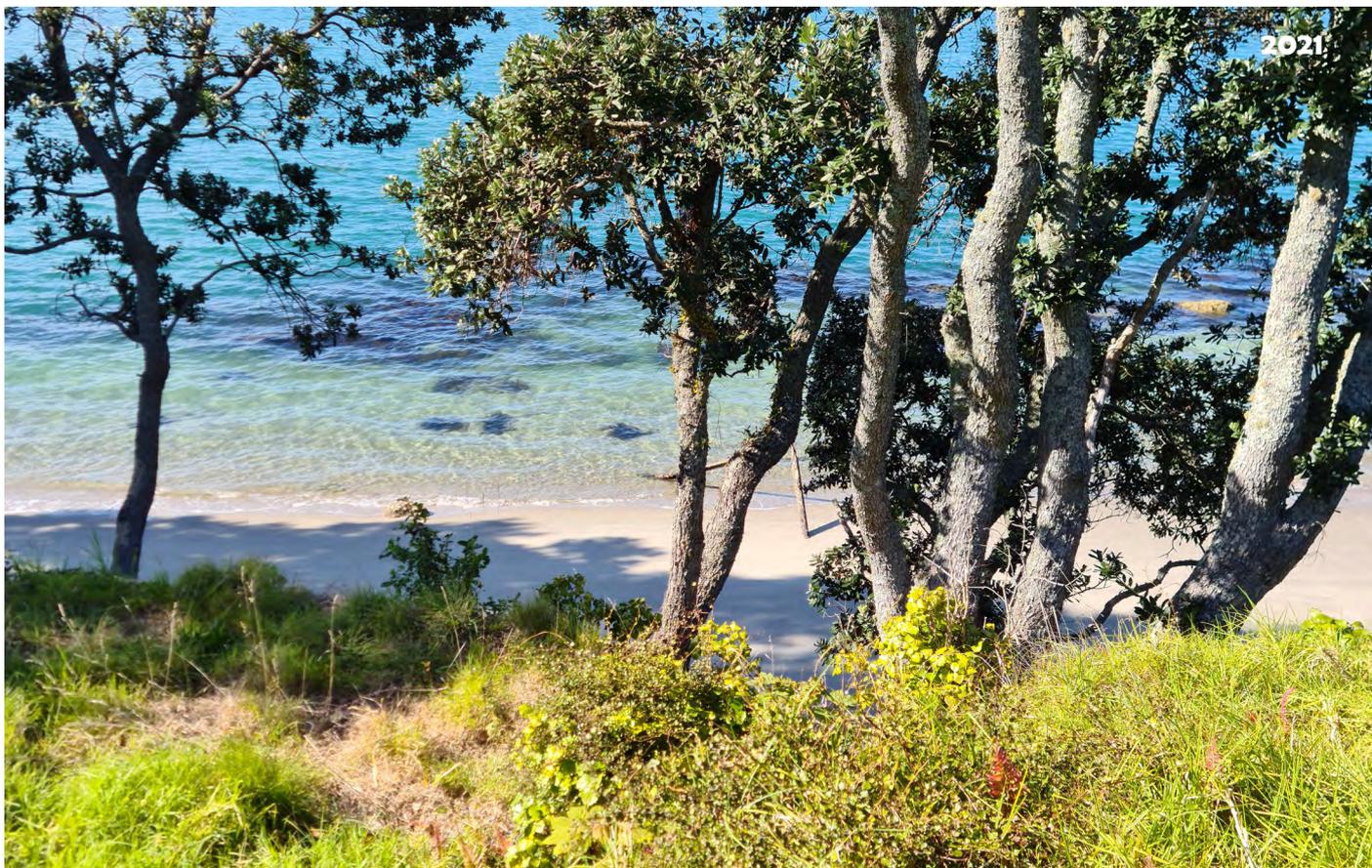
Iron jetty and surrounds

Notes: Vegetation clearance to reduce pōhutukawa and sycamore growing on the stonework face of the jetty that was done in 2020 needs to be maintained. There is on-going invasion by sycamore and other tree species. Interpretation should be developed at the jetty as part of the current project and the site should continue to be maintained in low vegetation/ferns/rank grass, with periodic weed

2021













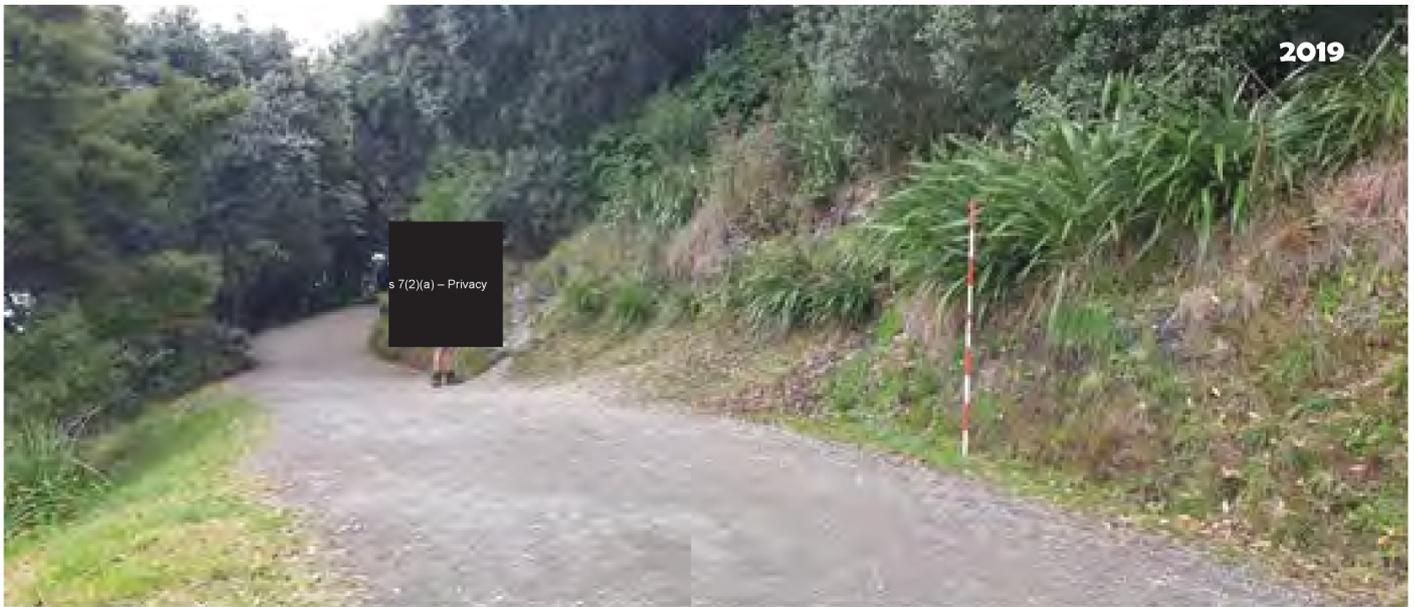


Monitoring Site 3

Base track midden erosion

Notes: There has been no significant advance or improvement in vegetation cover over the monitoring period and the eroded face is still highly visible. Shell is still accumulating at the base of the slope. Introduction of fill material may be required to get plant cover better established.







2019



2018





Monitoring Site 4

Fence placement, rabbit browse and slope stability

Notes: Vegetation cover on eroding archaeological features is now well established. There is no significant evidence of rabbit browse in the areas where grazing has ceased. There has been considerable improvement in vegetation cover and slope stability over the monitoring period.





2021



2020



2029







Monitoring Site 5

Rabbit damage (inactive)

Notes: Old rabbit damage, visibility decreasing. Note danger that such features start to look like archaeological depressions over time. Area around burrow entrance has deflated over time





Monitoring Site 6

Pa U14/173 condition/grass cover

Notes: General views across pa to demonstrate grass cover. Site is stable with good ground cover being maintained. Very little evidence of recent rabbit browse but rabbits are present in low numbers and should be closely monitored.



2021



2020



2021

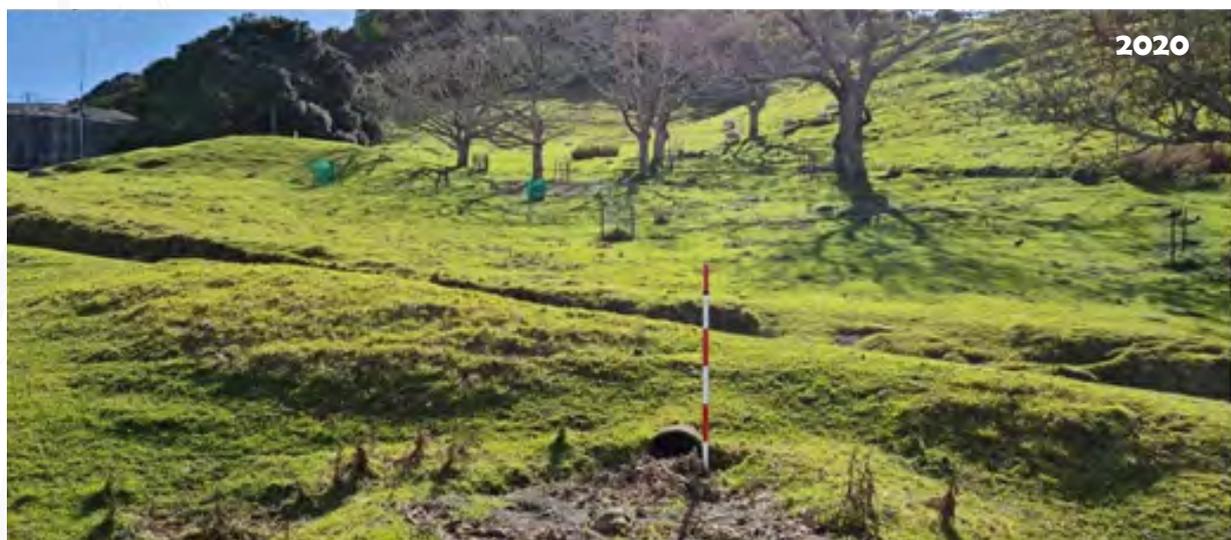




Monitoring Site 7

4WD track maintenance issues - tailings management

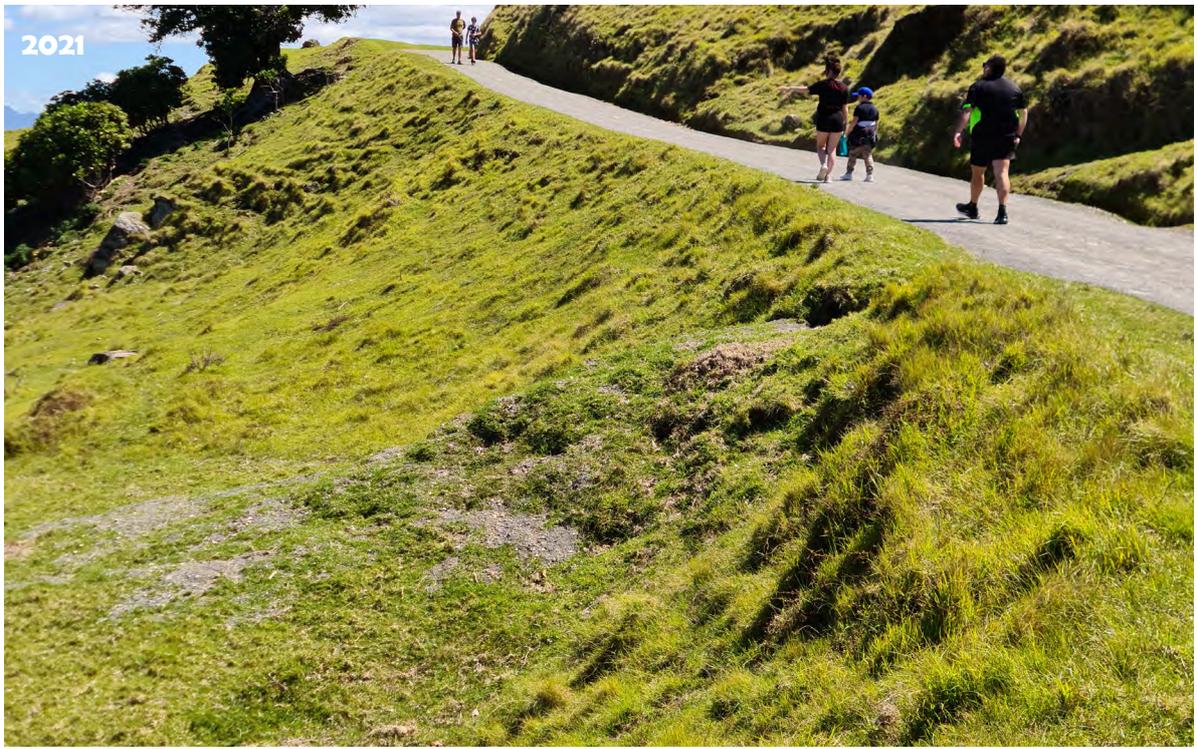
Notes: There is no recent evidence of tailings being dumped on archaeological features above the track, as was the issue in the past. However, the artificial build-up of material continues to 'create' features adjacent to the track. There is still a significant issue with metal being distributed onto terraces below the track. The distance between culverts, their function and the treatment of tailings needs further management attention. Consideration should be given to removal of artificial build-up with archaeological supervision.













Monitoring Site 8

Midden and vegetation management - pōhuehue growth

Notes: Grass sward is kikuyu; stock have had access to the mound since December 2019. Stock numbers in Spring 2021 are higher than the previous year and this has impacted on the grass cover on the southern side of the mound. Stock numbers should be closely monitored and reduced if necessary to





2019



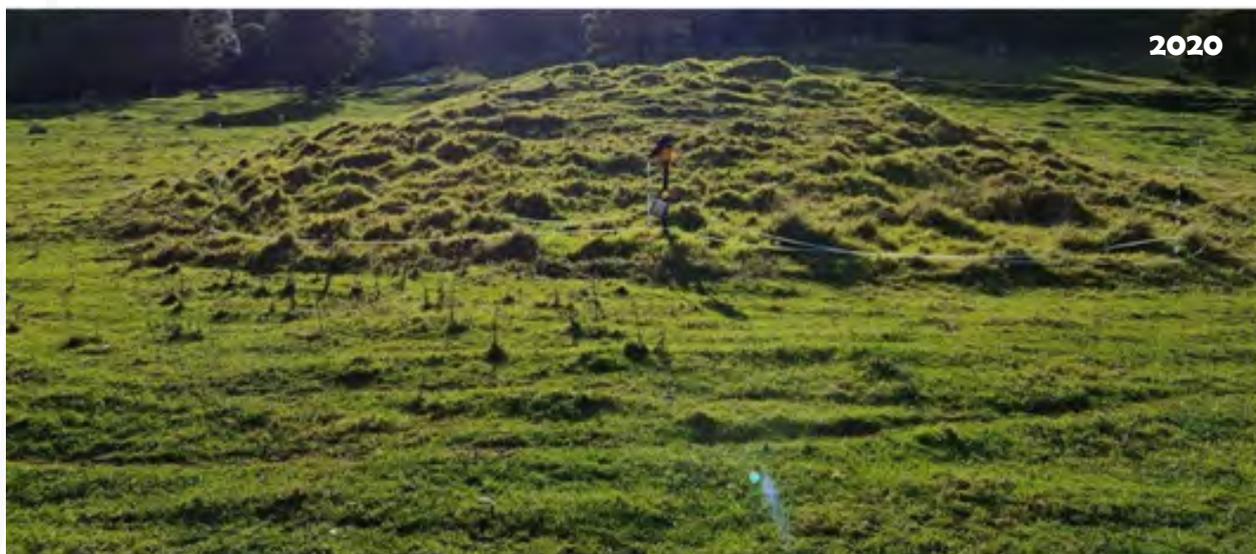
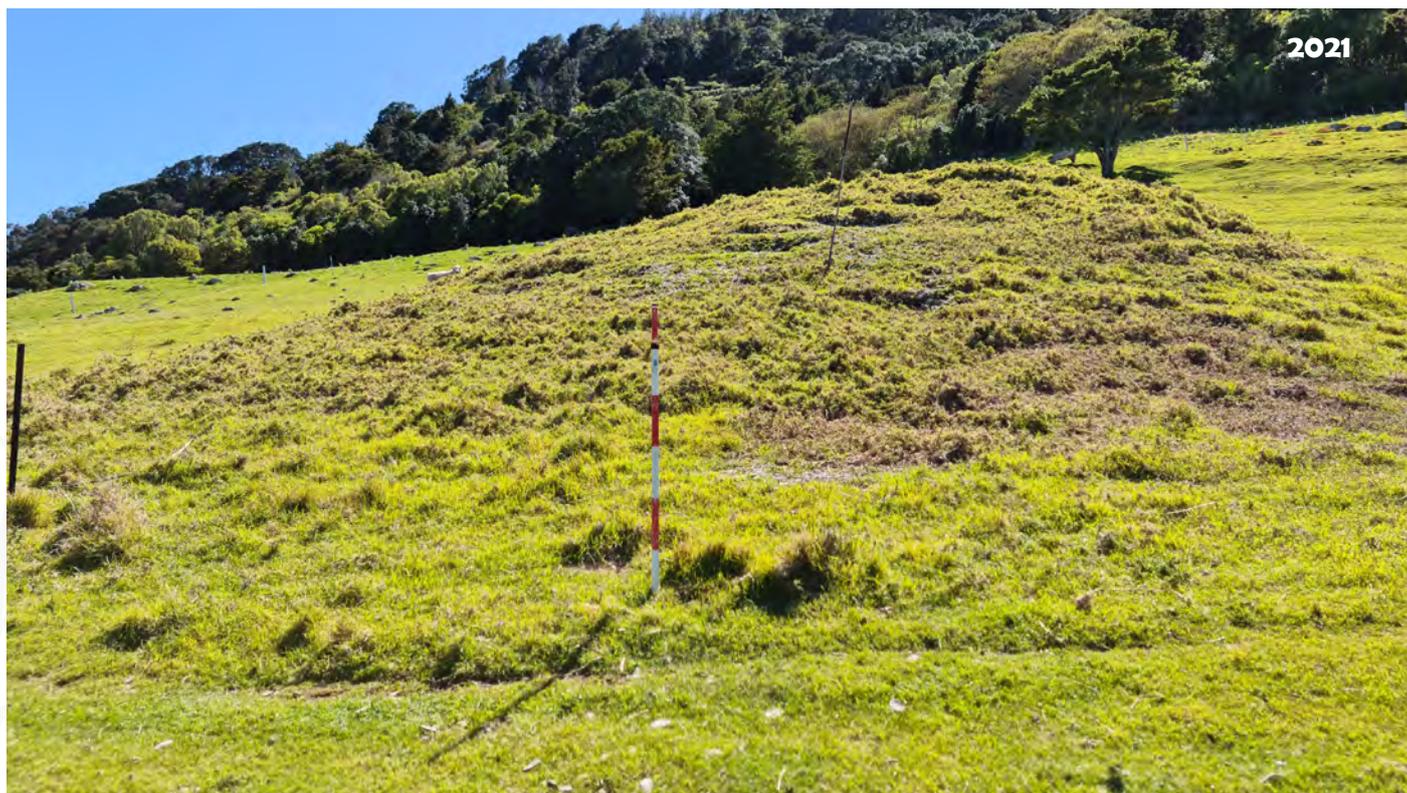
2018



Monitoring Site 9

Erosion on shell mound - stock and vegetation management

Notes: Grass sward is kikuyu; stock have had access to the mound since December 2019. Stock numbers in Spring 2021 are higher than the previous year and this has impacted on the grass cover on the southern side of the mound. Stock numbers should be closely monitored and reduced if necessary to maintain sward height.









Monitoring Site 10

Rabbit damage (active)

Notes: Vegetation cover has significantly improved as greater rabbit control measures are in place, but this should be closely monitored. No recent rabbit browse at this location, but rabbits were seen in the area during the monitoring visit.







Monitoring Site 11

Land slip on southern slope

Notes: 2018 planting of slip scar is well established. Still a lot of visible shell midden at the top of the slip scar and some limited new exposure since 2020 inspection. Stock exclusion on shell mound not successful so far due to location, it may need a temporary netting fence instead. Recommend archaeological investigation followed by planting and livestock exclusion.







Monitoring Site 12

Fence around middens on southern slope

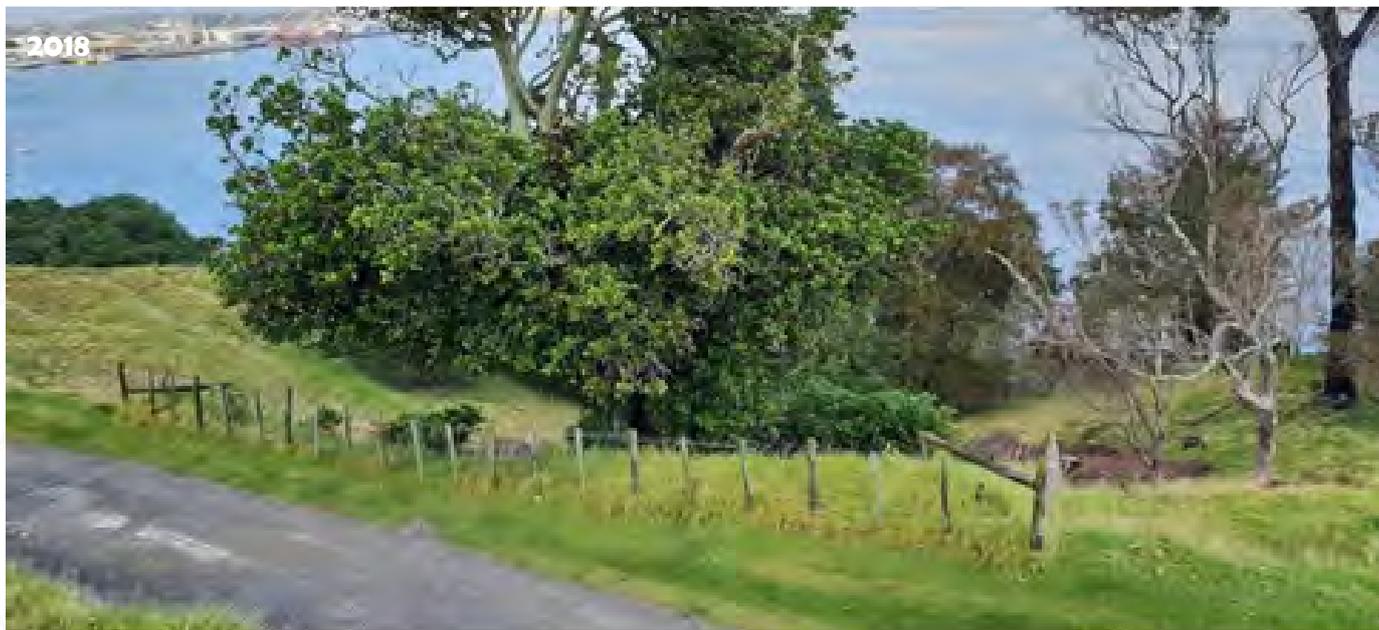
Notes: Fence around middens that was installed in 2003 was removed in 2018. Some browse of young karaka initially, but grove now well established and no new erosion of midden in evidence. Continue to monitor condition.



2019



2018





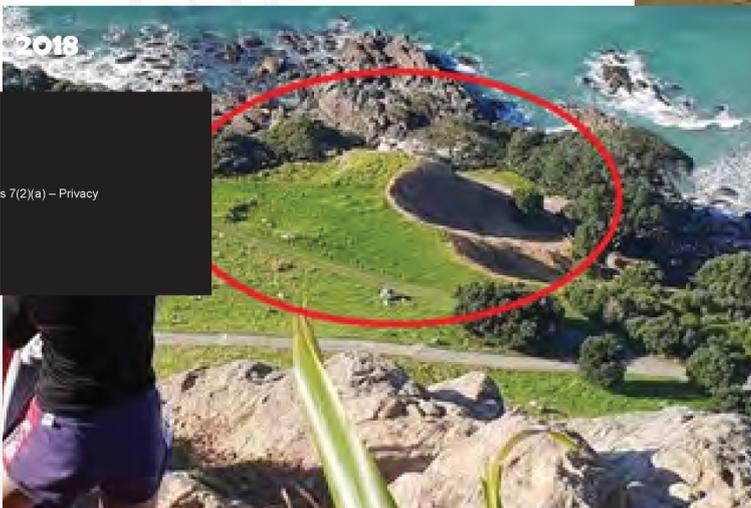
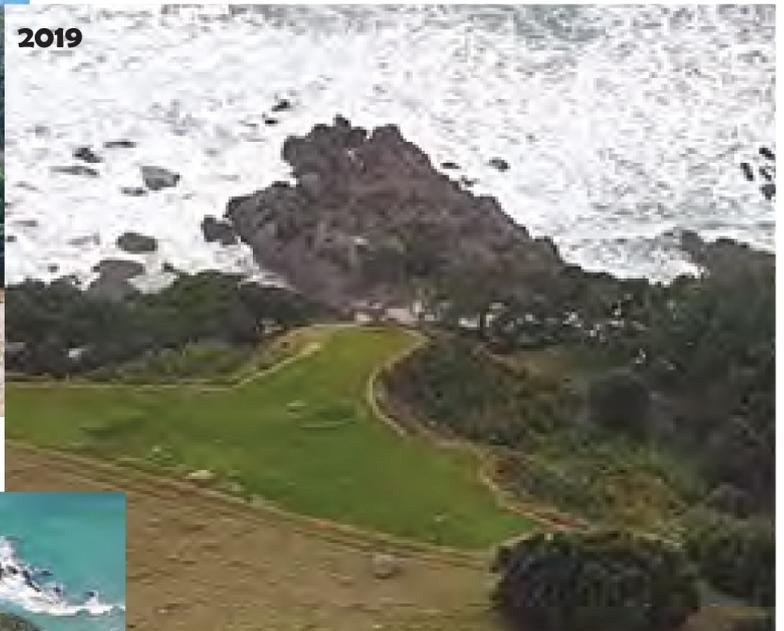
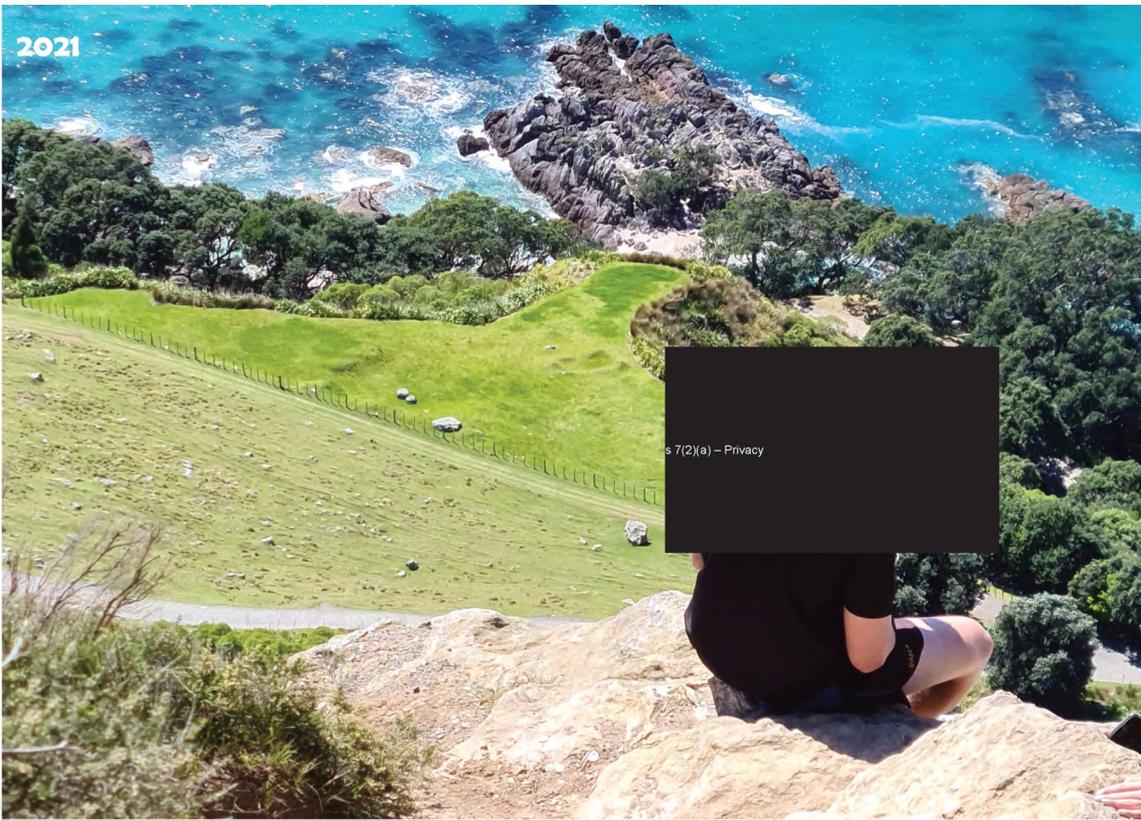
Monitoring Site 13

Area of military camp, helicopter pad, pits and terraces retired from grazing in 2018

Notes: Management of vegetation and site visibility has significantly improved following cessation of grazing. Features stable.









Monitoring Site 14

Repairs to summit terrace

Notes: Repair to terraces completed in 2013. The aggregate at the base of the slope was not moved as recommended as in 2019, but now less visible. Encroaching vegetation has been managed to keep terraces visible.







Monitoring Site 15

Repair to bank on summit and steps intallation

Notes: Width of steps has been increased to cover desire line. Continue to monitor use.



2019



2018





Monitoring Site 16

General monitoring of summit wear

Notes: There is on-going wear of imported armouring material on summit; on-going recapping is required by bringing in additional material from stockpile. Trig removed June 2021.







Monitoring Site 17

Desire line track on summit

Notes: Desire line is continuing to cause wear to intact archaeological deposit, and soil loss is readily apparent. Action to block access to prevent further wear was recommended in 2018 and needs to be implemented. Continue monitoring. Additional fill material may be required around the tree.

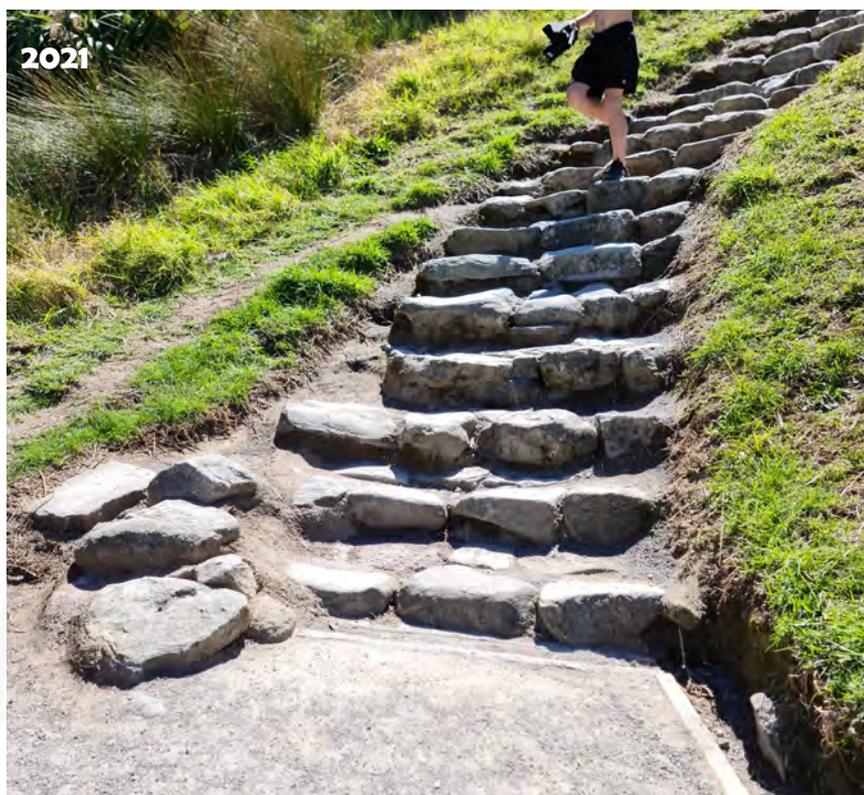




Monitoring Site 18

Stone steps condition and erosion

Notes: Stonework stable at present, but erosion from desire line more visible than in 2020. Weed spraying corridor needs to be reduced as this is encouraging desire lines. **Action needed at the top of the stairs to reduce water flow and erosion.**





Summary of actions - Heritage Management Specification

No.	Action	Timeframe	Comment on progress
1	Condition monitoring of capping and informal desire lines	On-going	Further recapping with fill material required.
2	Remedial action as required: addition of approved/suitable fill or aggregate to address desire lines.	On-going as required in response to monitoring	On-going.
3	Large tree removal	2016-18	On-going.
4	Remove smaller trees by felling at ground level, followed by herbicide application to stumps if necessary.	2016-17	On-going.
5	Land-slip assessment and response	2016 and on-going as required	On-going. Shell mound above large slip needs monitoring for stability.
6	Retire large land slips above the 4WD track from grazing	2016/17	Actioned in 2018 and progressing well.
7	Pest control in areas retired from grazing in 2005.	On-going as required following planting	On-going. Rabbit numbers increasing in 2021, control action required.
8	Weed control in areas retired from grazing in 2005.	Ongoing	On-going.
9	Establishment of pōhuehue on shell mounds	2017	Trial commenced 2018, on-going.
10	Ensure archaeological authority is in place prior to any fencing or planting work above the base track on the north-eastern side of Mauao	2016	Archaeological authority no. 2017944 in place. Expires August 2022.
11	Maintain walking and vehicle tracks	On-going	On-going. Further work to improve 4WD track maintenance required including removal of built-up tailings material below the track at culvert exits.
12	Implement rabbit control programme	2016 and on-going	On-going. Good progress being made toward eradication, but this needs to be maintained.
13	Stone Jetty and associated stone walls heritage assessment	2017	Assessment of stonewalls completed in 2020.
14	Repair of stone walls associated with jetty	2017/18	Not required.
15	Monitoring and vegetation management of Iron Jetty platform	2016 and on-going	On-going vegetation management is required.
16	Monitoring	2016 and on-going	Programme established 2018 and is on-going.

References

Phillips, K.J.S. 2003. Preliminary Archaeological Survey and Identification of threats to archaeological resources, Mauao Historic Reserve. Unpublished report to Tauranga District Council

Phillips, K. J.S. 2014. Archaeological Inspection and Conditions Assessment Mauao Historic Reserve. Unpublished report prepared for Tauranga City Council

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